Attachment A

Israel's Beef Industry: An Overview

A Preliminary Report of The Negev Foundation

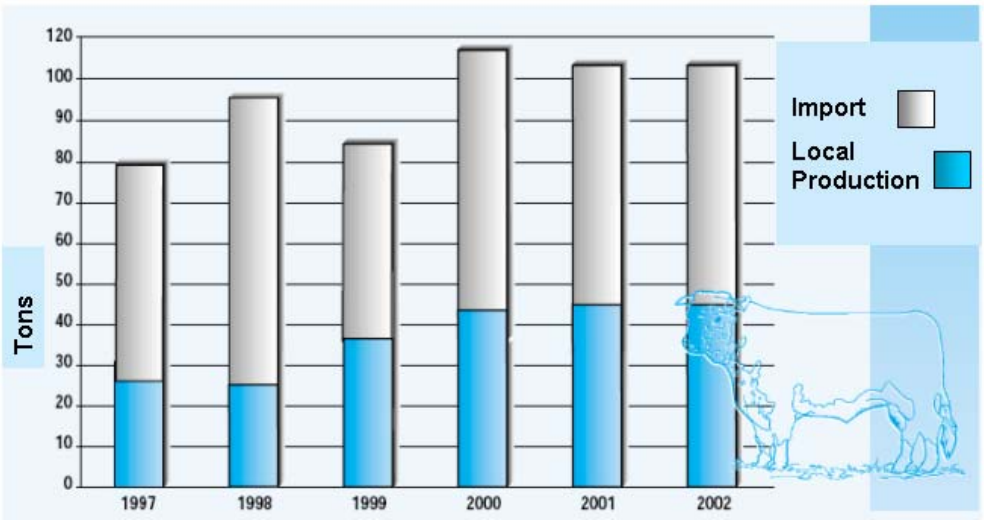
February 29, 2004

1. Introduction

Over the past five years, the big story for Israel's beef producers has been the increase in the local beef supply from imported calves, and the development of an active feedlot industry. Until the mid-1990s, fresh beef was limited to domestic slaughter of dairy culls and cattle from Israel's small 50,000-60,000-head beef herd. About two-thirds of Israeli beef consumption was imported frozen beef. Since 1996, relaxed trade restrictions have allowed duty-free imports of live feeder beef calves. As a result, the fresh beef supply has nearly doubled since 1997, to over 45,000 tons per year, and domestic slaughter has supplemented imports such that nearly half the country's beef supply is now fresh beef from local producers.

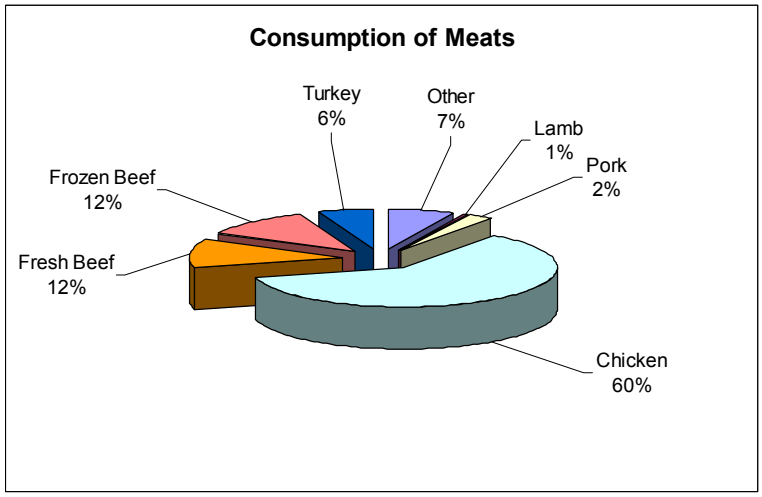
2. Beef Consumption in Israel

Israeli beef consumption has increased from about 80,000 tons in 1997 to over 105,000 tons in 2002[1]. Much of the increased demand is a result of population growth (16% in the period) and increased standard of living. Per capita consumption has grown from about 15 kg (33 lbs) per year to about 17 kg (37 lbs)[2].



From "Cattle, Beef, and Everything in Between: Production of Beef in Israel" Israel Dairy Board, 2003.

Nevertheless, beef remains the *second* most popular meat in the Israeli diet. Chicken accounts for about 60% of all meats consumed. Turkey consumption is also high by international comparison.



Meat	Annual per capita consumption	
	kg	lb
Chicken	45.5	100.0
Fresh beef	8.7	19.2
Frozen beef	8.7	19.2
Turkey	4.3	9.5
Lamb	0.5	1.1
Pork	1.8	4.0
Other	5.2	11.5
TOTAL	74.7	165.0

3. Frozen Beef Imports

For over two decades, South America has been Israel's primary source of frozen beef. Until 1993, all meat imports were carried out by a government monopoly purchasing authority. The major suppliers remain Argentina, Brazil, Paraguay, and Uruguay. Some sources have been shut off by outbreaks of foot and mouth disease or BSE. Some private importers have found alternative sources. Small supplies have come in from year to year from the Netherlands, U.K. and the U.S. Low price has been the determining factor for imported beef. Israelis have imported 47,000 to 61,000 tons annually over the last five years.

Frozen Beef Imports (metric tons)

Year	1997	1998	1999	2000	2001	2002
Tons	52,250	46,742	48,798	61,076	54,600	55,300

From Israel Central Bureau of Statistics, Import-Export CD-Rom

No fresh beef is imported into Israel. From most sources, the 100% duty within a tariff rate quota of 37,000, and 213% outside of the quota, is prohibitive.

The U.S. has a duty-free tariff rate quota of 1,200 tons for fresh or chilled beef imported into Israel. In theory, this quota could be utilized. However, Israel's Meat Import Law requires that all meat imported into Israel be kosher meat, approved by the Israeli Chief Rabbinate. Before 1993, when meat imports were privatized, some kosher beef from the U.S. was imported for use in tourist hotels. Since then there has been no ongoing import of kosher beef or beef products from the U.S, only individual shipments.

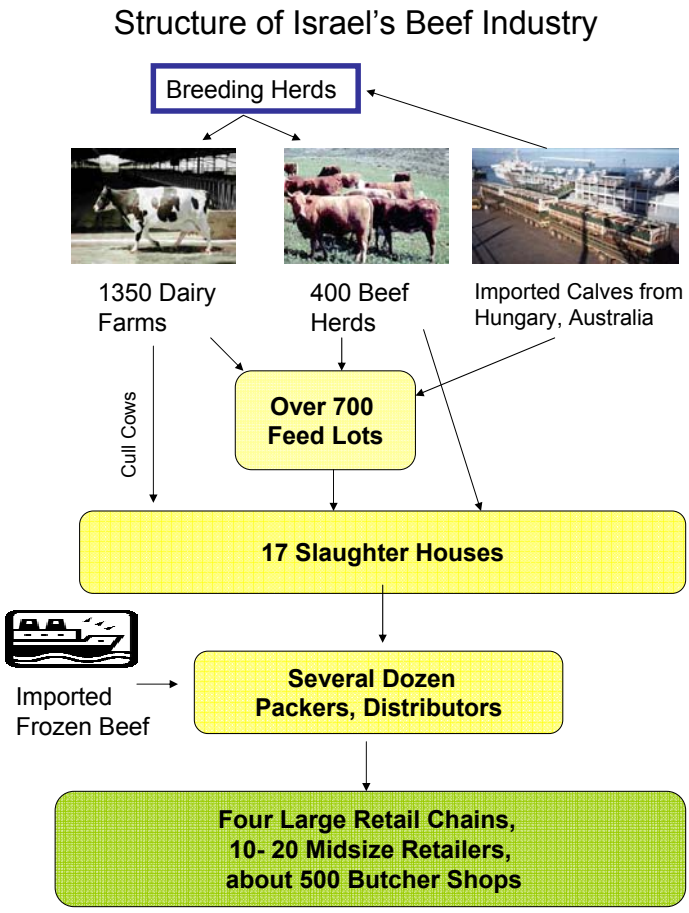
The Israeli Rabbinate requires that cattle be slaughtered in a prone position – not stunned and hanging upside down as in the U.S. Israel's Rabbinate approves South American slaughter in which cattle are tied and laying on the ground, but U.S. veterinary and hygiene authorities do not generally approve that system. One solution is a turning box, used in Europe and sometimes in South America. There have been several unsuccessful attempts to use the turning box in the U.S.[3]

4. The Structure of Israel's Beef Industry

Israel's beef industry is essentially a by-product of its highly developed dairy sector. The national dairy herd, which has remained constant at 115,000 to 120,000 head, provides male calves, unneeded heifers and older cull cows for the beef supply. Since Israel cannot economically export most of its milk products, the growth of the dairy industry is limited to the rate of population growth minus increased dairy productivity. A statutory system of milk quotas, managed by the Israel Milk Board, monitors against dairy overproduction. There is also a strong move toward consolidation of the dairy herds, to increase productivity and improve environmental compliance.

The generally arid climate of much of the country, and the high population density in the non-arid regions, creates a severe shortage of natural pasture for a large beef industry. For many years, the national beef herd has been 50,000 to 60,000 head, and is not expected to grow. Furthermore, its existence has been supported by government per-head grazing subsidies in order to allow it to be profitably sustained on existing pasture. The future of this subsidy is not certain.[4]

The beef herds are served by well-managed breeder herds. These operations sell weaned calves to stockers and breeding calves to herd owners. They maintain pure breeds and make genetic improvements. Most beef cattle are of four breeds: Simental, Charolais, Limousin, and Simford (a cross between Hereford and Simental). The herds are generally small. Artificial insemination is used more in the breeder herds than in commercial herds.[5]



a. Beef Ranchers

Between 31,000 and 34,000 cattle per year are slaughtered from the pasture-based beef production herd, providing 15% of Israel's fresh beef. The average herd size is 250 head, and 80% of the beef herd is in the less-arid north of the country. Cull cows from the beef cattle herd are usually marketed at the end of the green pasture season (May-June) without any special feeding before slaughter. Most of the bull calves from the beef cattle herd are weaned at the end of the green pasture season at 200-250 kg (440-550 lb) live weights and placed in feedlots until attaining slaughter weights of about 500 kg (1,100 lbs). About 40% of female calves are raised to replace cull cows, and the remainder is fattened in feedlots. Reproductive life in the herd is usually about 9 years.[5]

b. Dairy Farmers

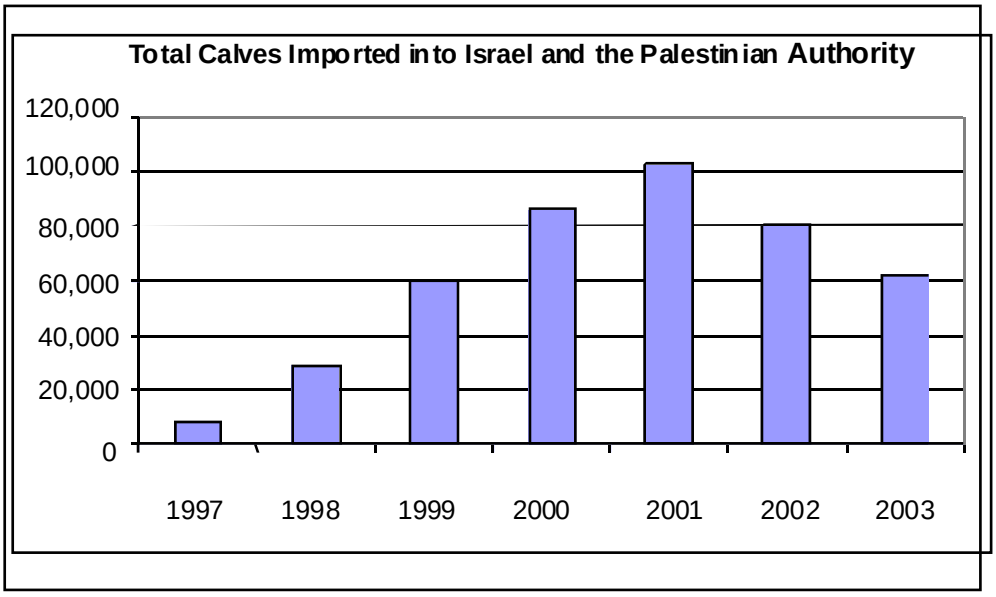
About 40% of local beef slaughtered comes from the domestic dairy herd. The Holstein-Friesian dairy herds, totaling about 120,000 head, send essentially all of their male calves, plus excess heifers not needed for herd replacement, to feedlots for fattening. In many cases, these feedlots are simply

an auxiliary facility next to the dairy herd, owned and operated by the same dairy herd owner. Older cull cows, about 35% of the herd per year, are sent directly to slaughter.

c. Imported Calves

To supplement the beef supply, Israel began in 1995 to import large quantities of feeder calves for fattening in feedlots, and slaughter. Since then, the import trade has developed significantly and Israel's feedlot industry has grown. Pressure for imports grew from increased demand for beef from a growing and more affluent population. Israeli beef interests realized that if they opposed feedlot industry growth based on imported calves, the only alternative would be more imports of fresh or frozen beef. At the same time, the opening of diplomatic relations with Jordan allowed cooperation in livestock imports and veterinary regulations—the Jordanians have imported Australian cattle and sheep for years.

The Palestinian Authority, which has no dairy herd of its own, also takes a significant part of this import trade. In principal, the calves imported by Palestinian traders are slaughtered in the Palestinian Authority. In practice, some of the Palestinian calves are sent (legally) to feedlots in Israel, and may or may not be returned to the Palestinian Authority for slaughter. Some are slaughtered in the Palestinian Authority and the meat is smuggled back into Israel. Most are slaughtered soon after arrival, and not held in feedlots. They are included in the Israeli statistics because the beef market of Israel and the Palestinian Authority is largely integrated. Some Palestinian imports are in fact placed in Israeli feedlots before moving to the PA for slaughter. Veterinary arrangements are handled jointly.



2003 data from Israel Milk Board 2003 are estimates

There are two primary lines of trade: About 20,000 calves were shipped in by air from Hungary in 2003[6]. Most of these have been small calves, about 55-60 kg (121-132 lbs), primarily excess bull calves from dairy herds. Importers buy the calves in Hungary at €2.30/kg ($1.32/lb), and pay for the air transport and the veterinary quarantine in Israel. The going price for these calves in Israel in late 2003 was $306 per head. The importers make a practice of taking firm orders before each month's imports[7].

About 5,000 head of the Hungarian imports were larger 220-kg (485-lb) calves from mixed beef herds. These calves were purchased in Hungary for €2.00/kg ($1.15/lb) and sold in Israel for about $660 a head[7].

Israel imports larger calves (220-240 kg [485-529 lbs]) by sea from Australia. These calves are pasture-raised beef varieties; the best are Black Angus breeds. The calves are imported by a Jordanian merchant who operates special livestock ships for the trade. The calves are shipped first to Aqaba, the Jordanian port on the Red Sea. The herds are accompanied from the ships by veterinarians and trucked to a transfer station on the Israeli-Jordanian border, then transferred to Israeli trucks and quarantined. The logistical arrangements in the desert heat have been criticized, but no alternative has yet been arranged.

Recently, Israeli beef buyers traveled to Australia to make their own arrangements and pick of herds, but the logistic arrangements and the actual sales are still controlled by the Jordanian trader. Israeli purchasers paid $2,600 per ton ($650 per head) c.i.f. at the Israeli-Jordan crossing station for the best quality calves. Lower quality calves were sold for $550-$575[8].

For the first nine months of 2003, Israel and the Palestinian Authority imported 51,644 calves. The Palestinian Authority imported 27,961 of these, Israel 23, 683. About 70% of these calves came from Australia, 30% from Hungary.[12] The distribution of these calves according to use:

Israel's live cattle imports, 1997-2003

	1997	**1998**	**1999**	**2000**	**2001**	**2002**	**2003** (through Sept.)
Breeding	87	218	62	134		95	
Heifers		1,458	1,223				
Bull calves for fattening	4,900	12,438	41,625	56,663	84,516	56,727	23,143
Milk veal calves	2,952	6,084	9,505	8,854	9,787	6,468	2540
Calves for slaughter*	282	8,190	7,842	20,737	8,943	16,875	25,961
Total	8,221	28,388	60,257	86,388	103,246	80,165	51,644

*Imported for and by the Palestinian Authority from Australia
Data from Israel Milk Board, 2002 Yearbook and Rosen presentation.[12]

The downturn over the last two years had several causes:

- Until the discovery of BSE in Poland in spring 2002, Poland had been Israel's major source of small calves. All Polish imports have been banned since 2002. Imports from Hungary have filled only some of the gap.
- The continued contraction of the Israeli economy has led to weakened consumer demand for higher-priced food items.

Characteristics of calves available in Israel

Source	Characteristics
Israeli mixed breed beef calves	• From pasture fed calf-calf cow operations, primarily in northern Israel • Generally very healthy cattle, high kosher percentage (~80%)

	• High carcass weight, good distribution of cuts • Not highly standardized meat because of breed varieties • Limited availability—increased production limited by lack of pasture land
Australian mixed breed beef calves	• Mostly mixed breed grazed on natural pasture • Some Angus, Droughtmaster, other breeds imported at higher prices • Imported to Gulf states, Jordan, & Israel in large quantities, on high-volume ships, for several years—inexpensive and well known • Import logistics–long sea journey, border transfer in desert heat, quarantine in Negev, land transport in Israel–create health problems • Because of respiratory & other health issues, kosher percentages are 60-70%
Hungarian Holstein calves	• Similar to Israeli dairy calves • Relatively simple logistics–3-hour flight from central assembly points in Hungary • Low transport cost • Low kosher percentages (50-70%): transport & early life in dairy barn create respiratory problems. Similar to Israeli dairy calves
Israeli Holstein calves	• Medium carcass weight • Little marbling • Medium distribution of cuts • Standardized quality of meat, and of carcass structure • Low kosher level (the reasons for the low kosher percentages, if they really are low, are not entirely clear: no transport issues, relatively hygienic conditions)

Customs Import Policy

In order to allow Israeli feedlot operators to benefit from the trade, Israel provides a duty-free tariff quota of 120,000 head per year for "live bovine of average weight of less than 240 kg. each" (528 lbs. average weight by shipment). In practice, this tariff quota is not fully utilized, but if there is demand for increased imports, the Ministry of Agriculture would probably not oppose increasing the quota. While a few countries are promised a portion of the quota, in practice, all MFN (Most Favored Nation) countries have duty-free access for calves under 240 kg.

Administering the quota requires special notification and approval of each shipment by the Ministry of Agriculture Foreign Trade Center and, more importantly, advance approval by the Veterinary Authority.

Live bovines above 240 kg (529 lbs) average weight may also be imported into Israel outside of the tariff quota with customs charge of 1.2 NIS per kg (about $0.11 per pound.) Some 5,000 head of cattle were imported with customs paid in 2001.

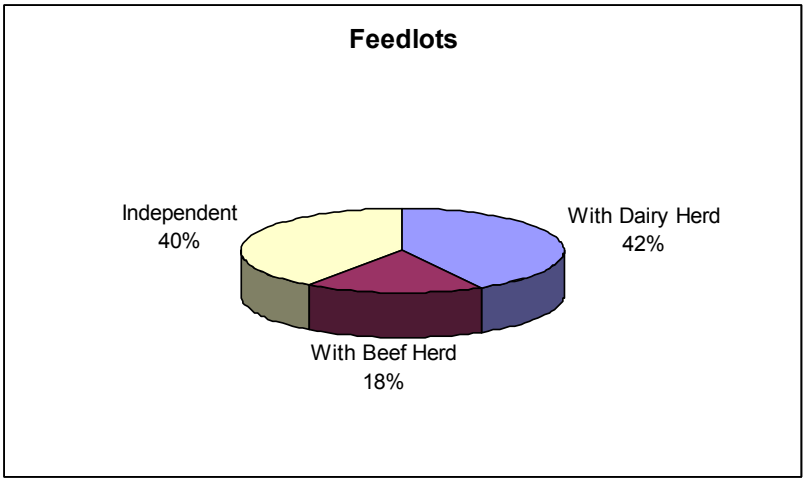
There is also some discussion of raising the 240-kg duty-free quota limit to 260 or 270 kg (572 or 594 lbs). Israeli beef producers have opposed this proposed change, since this would reduce the price of domestic fresh beef. Feedlot operators also oppose it, since it would reduce their opportunity for adding value and their profit. The definition has now been changed to allow duty-free imports of calves of an average weight per shipment of not more than 240 kg.

d. Feedlots

Calves in most Israeli feedlots are housed in open sheds with concrete or compressed earth floors. Some earthen lots have concrete flooring bordering the feeding troughs.

In 2002, the Beef Growers Section of the Israel Milk Board surveyed all Israeli feedlot operations. The survey found 775 operating feedlots, with a total of 115,000 feeding stations. Feedlot locations were often operated in conjunction with dairy or beef operations:

- 537 lots with 74,000 stations, adjacent to milk herds
- 48 feedlots with 20,5000 stations, adjacent to beef herds
- 190 independent feedlots with 46,000 stations



From the Israel Milk Board 2002 Feedlot survey

Prices and Demand

The latest data on the prices for calves and cows in Israel:

January 2004 Live Weight Calf and Cow Prices

	$/lb live weight	
	Low	High
Holsteins:		
Good quality cows	0.55	0.57
Medium quality cows	0.49	0.51
Lower quality cows	0.38	0.40
Cows after one birth	0.59	0.62
Large dairy bull calves	0.98	0.99
Small dairy bull calves	1.01	1.02
Heifers	0.79	0.85
Mixed Breed (primarily from beef herd):		
Mixed breed heifers	1.03	1.05
Mixed breed bull calves	1.10	1.12
Hungarian mixed breed bull calves	1.03	1.05
Australian mixed breed bull calves	1.03	1.05
Mixed breed mature cows	0.41	0.43
Bulls	0.79	0.88
Mixed breed adult cows	0.90	0.90

Source: Ambal – Israel Beef Cattle Growers Association

As in the U.S., smaller calves have a higher price per pound, as do beef breeds. The higher price for the beef cattle is at least partly due to the higher percentage of kosher carcasses from beef cattle.

There is no particular demand for any particular breed of cattle for beef. Most of the demand from feedlots and slaughterhouses is based on price considerations, not consumer taste preferences. Most Israeli beef is Holstein beef, since the dairy herd is the source of most beef cattle and calves in Israel. Some mixed breeds are used. The most common is a Holstein/Charolais. These calves may account for 5.7% of all the calves from the dairy herd.

Feedlot Production Regimes

In Israeli feedlots, larger imported calves are brought in at about 240 kg (529 lbs) and fattened for about 170 days to be sold as "mature bull calves." The smaller European calves are held for up to ten months before slaughter. The mortality rate for calves up to two months old is 4-5%. For all cattle, the mortality rate is under 1%.

In the U.S., bulls are castrated in order to provide a larger proportion of hindquarter meat (and a more docile animal), since in the U.S. hindquarters have a higher consumer price. In Israel, however, kosher meat has a much higher price, and kosher meat generally comes from the forequarters.

Bulls also gain weight more rapidly and more efficiently than steers, and produce leaner carcasses that are more variable in tenderness. Even though bulls are more difficult to manage than steers or heifers, in Israel, the bulls remain bulls. They are marketed at an average live weight of 400-500 kg (882-1,100 lbs) at an age of 12 months[5].

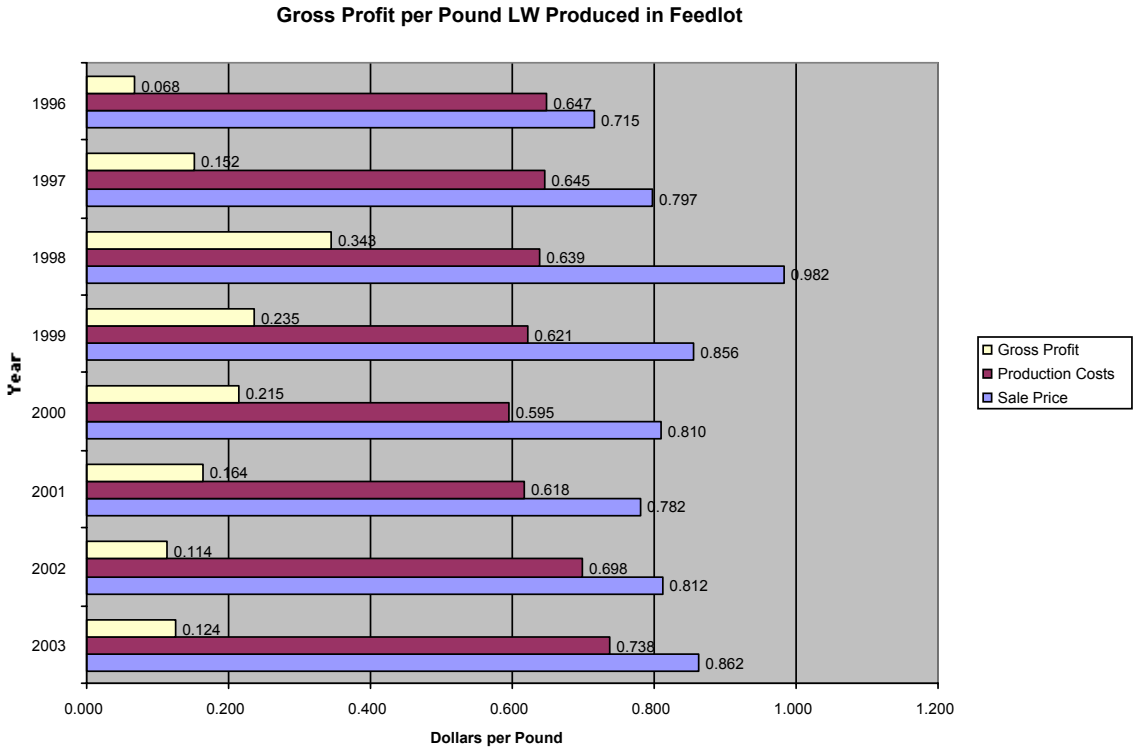
Bull calves from the beef herd also come to the feedlots for 170 to 280 days, depending on the time of year, and are also slaughtered at 500-550 kg (1,102-1,213 lbs). Heifers from the beef and dairy herds come in lighter to the feedlots and are slaughtered at 300-400 kg (661-882 lbs).

About 10% of dairy bull calves are sent to the feedlots immediately at birth and are fattened using a special feeding system and sold as "baby beef" (marketed at an average live weight of 220 kg [485 lbs] and at six months).

Israeli feedlots generally use TMR (total mixed ration). Average daily weight gain is about 1.3-1.5 kg (2.9-3.3 lbs) for bulls.

The profitability of Israel's feedlot operations, particularly independent operations, depends on several factors. Some are the same as in feedlots anywhere: changes in the feed grain and cattle markets over time, operational efficiency, buying and marketing skills of the operator. In some cases, the feedlot operator is working on a pension or contract basis (holding and feeding cattle at a fixed price per day)—so that only operating efficiency is tested. Below, a chart showing the gross profit per kg live weight added in the feedlot over the last eight years. The average mass added to

each calf is 431 kg (950 lbs). Gross profits have declined from much higher levels in the late 1990s.[12] Gross profits have been slightly more than 14% of the sale price the last two years, which is well below 1997-2001 levels. These are the lowest levels since 1996, when gross profits were 9.5% of sale prices.



e. Kosher Considerations

In any calf herd, only some calves will be acceptable for kosher meat. There are no restrictions on the feed for raising these calves. The kosher distinction of each calf is made only after slaughter, but the cattle often are sold at live weight to traders. As such, a determining factor for profitability in Israel is the proportion of kosher calves in each herd.

The primary reason for failure to meet kosher requirements is the fitness of the calf's lungs. In order for the slaughtered carcass to be certified kosher after slaughter, the lungs must be without seepage (must be inflatable), and without scar tissue. If the lungs are damaged, the entire carcass is not kosher, and the seller receives a lower price. If the lungs are fit and other kosher requirements are met, the forequarters of the carcass can be certified as kosher meat. The hindquarters are sold at the non-kosher price. Hindquarters can be made kosher by removing all the blood, arteries, and veins, but since this is more difficult for hindquarters compared to forequarters, it is usually not done.

Lung fitness is generally a function of respiratory illness the calf has suffered, and in large part, the type and hygiene of their feed. Thus, the source and treatment of calves seems to determine the kosher percentages of the carcass. Calves from the Israeli dairy herd have kosher percentages of 55-

75%. Most observers believe that the kosher percentage of Polish dairy calves was similar. Calves from the Israeli beef herd have kosher percentages above 85%. Australian calves apparently yield about 60%-75% kosher carcasses. The geographic location of the herd in Israel is also thought to be a major indicator of the kosher rates of the cattle[5].

Because of the substantial price gap between kosher and non-kosher meat, the percentage of kosher carcasses produced by beef from any source will be a major factor in the long-term profitability of the trade. As such, efforts must be made to insure that the calves remain strong and healthy during transport, with as little disturbance as possible during shipment, with particular concern for respiratory diseases.

There is one caveat, though: According to several surveys, 50%-70% of the Israeli population maintains some degree of kosher observance and prefers to buy kosher meat, so it is likely that some price premium for kosher meat will remain for the foreseeable future. Yet part of the reduced price for non-kosher meat in Israel has been the lack of a well-organized marketing system for non-kosher meat. The three largest Israeli supermarket chains, for example, sell only kosher meat. The marketing network for beef in the Arab sector has been underdeveloped. This situation has been changing in recent years, as new non-kosher chains and up-scale retailers have appeared. The price gap between kosher and non-kosher meat may be reduced as demand for non-kosher beef increases.

f. Slaughterhouses

Seventeen slaughterhouses currently have veterinary authorization in Israel. Most are small- to medium-sized operations built over 20 years ago. Three or four of the larger slaughterhouses have had building upgrades in recent years. Several of the slaughterhouses are owned by municipalities, and others serve only local needs. Only a few of the slaughterhouses are cattle buyers and beef distributors. Most provide services at a set fee for cattle buyers and beef distributors. Most also operate in the Arab sector. These facilities slaughter both for kosher and non-kosher end customers. With few exceptions, the slaughter facilities process carcasses only to quarters.

The overall level of slaughter facilities in the country is far below the agro-technical level of the rest of the dairy and beef industry. This situation is expected to change in late 2004, as Tnuva, Israel's largest food cooperative, completes construction of a new large beef slaughter and packing plant in Beit Shan. Tnuva also plans to exercise control of the beef raising and operations. (We will provide more information about this initiative in a separate report.)

Estimate of beef slaughtered in 2002, by source:

	Head
Dairy herd	
Cows	40,000
Bulls and heifers	55,000
Total	95,000
Beef herd	
Cows	5,000
Heifers	13,000
Fattening bulls	17,000
Total	35,000

Imported calves	115,000
Grand total	245,000

Data: Israel Milk Board, 2002 Yearbook

g. Processors and Distributors

After slaughter, beef is transferred to a large number of distributors who sell quarters or cuts to supermarkets and butchers, or to processors who market processed fresh products. A few integrated operations such as the Marbek and Tabach firms do exist. These firms operate slaughterhouses, process carcasses into quarters and cuts, and distribute to supermarkets and others. Some distributors, as well as the supermarket chains, hold fresh beef for aging.

Frozen Processors

Some of the distributors and most of the processors deal with frozen imported beef as well as fresh beef. Throughout the Israeli food industry, the frozen imported beef is a less-expensive alternative to fresh Israeli beef, selling at wholesale for half of the price of fresh beef. Many institutional kitchens, from hospitals to kibbutzim (agricultural collectives) to the army, use frozen beef exclusively, for budget reasons.

Frozen beef is imported in small cuts and in quarters. Smaller cuts and individual roasts are sold at retail. Most of the imported beef goes to processors who cut and package a wide variety of user-ready meat products. Israel is one of the few countries where processors may legally inject up to 10% added water and additives (usually phosphates) into frozen beef products.

Another controversial practice is processing frozen beef into “aged” beef. Israeli health regulations allow frozen beef to be thawed, koshered, and stored in vacuum packs of up to 5 kg (11 lbs). After 14 days of curing, the beef can be marketed for another 30 days. Israeli regulations require that this aged-beef-from-frozen-beef be clearly labeled as such, yet since it is sold chilled and not frozen, consumers often regard it as fresh, and it is gaining in popularity. It has become a very profitable product line for processors and retailers, as the price of these products has moved up from the level of frozen products to close to the level of fresh beef.

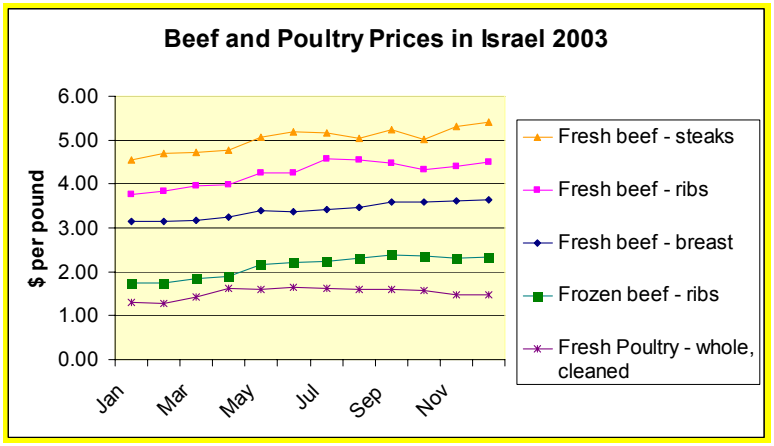
h. Retail Marketing

About 70% of fresh beef is marketed to consumers through supermarket chains, butcher shops, and open market. The institutional market—primarily restaurants and hotels—buys the remainder of the beef.

Prices paid by Israeli consumers for various cuts of meat in 2003

Type of meat	Lowest price in 2003 ($/lb)	Highest price in 2003 ($/lb)	Average price in 2003 ($/lb)
Fresh beef-breast	3.15	3.65	3.40
Fresh beef-ribs	3.77	4.57	4.24
Fresh beef-steaks	4.56	5.41	5.02
Frozen beef-ribs	1.74	2.37	2.13
Fresh poultry (whole, cleaned)	1.29	1.65	1.52

Data from the Israel Central Bureau of Statistics Monthly Bulletin of Prices, Table 16



Supermarkets

About 60% of fresh beef is sold through supermarkets[9]. Israel's three large chains together sell about 44% of meat and poultry in the country. These supermarkets are generally comparable to European or American outlets, e.g., wide variety, modern lighting and design, international packaging, large frozen food sections. The most striking difference, however, is the fresh meat section. Every large supermarket displays fresh meat in refrigerated counters in large trays, generally un-sliced, and almost never pre-wrapped – an old-fashion butcher shop inside of a supermarket. Customers consult with butchers at the counter, place their orders and wait while the butcher cuts and trims roasts and steaks to order. Supermarket butchers weigh the meat in front of the customer and present the final product either in a stretch-wrapped tray, a plastic carton or a plastic bag.

Israeli beef is generally leaner than U.S. choice. Israel does not have a grading system that gives preference to marbled cuts. Israeli consumers are used to lean meat, and apparently request lean meat from butchers.

Because of Israel's mix of ethnic backgrounds, Israeli butchers are adept at preparing various types of cuts for specific clientele. Some use American cuts and names, more use Argentina or European traditions. Since the major supermarket chains sell only kosher meat, hindquarter cuts are unusual. (Hindquarter cuts can be made kosher only by removing the veins by hand.) Supermarket butchers

generally sell both “kashered” (salted) meat as well meat that has been kosher slaughtered but has yet to be soaked in salt to complete the koshering process.

“Fresh-from-frozen” beef is displayed alongside fresh beef. Defrosted beef may originate in a sealed vacuum pack, but butchers will open the package and sell portions or cut steaks if requested.

Some supermarket butchers also sell “homemade” ready-to-cook products such as seasoned hamburger patties, skewered meat ready for the grill, net-wrapped rolled roasts and roasted chickens.

Unwrapped fresh poultry and cuts are also displayed in the butcher’s counter, but poultry products are available pre-wrapped as well.

Beyond the butcher counter, Israeli supermarkets feature a large range of frozen beef and meat products, from simple frozen steaks and hamburgers to fully made entrees. A wide selection of smoked poultry and beef products are available as sliced-to-order at a separate delicatessen counter, as well as pre-packed chilled and frozen.

Other Retail Outlets

Neighborhood butcher shops sell about 25% of Israel’s fresh beef. They are usually found in areas where the buying frequency is above average. Since these shops are small and each serves a specific clientele, they tend to vary considerably depending on area and clientele.

Another class of outlets is upscale delicatessens. There are several delicatessen chains and many independents that sell prepared foods, processed delicacies and fresh meat. The category is distinguished by the high design standards of the stores, higher price levels and the fact that many of them are not kosher. These units account for about 5% of beef sales, and are growing.

At the bottom end of the market, open-markets stalls account for 7% of beef sales.

Non-Kosher/Non-Jewish Markets

According to a 2001 survey, about two million Israeli Jews may be potential customers for non-kosher food. Israeli Arabs account for another 1.3 million potential customers, although many of them may keep halal (very similar to kosher). The Israeli Arab population is generally located in rural villages, and are not well served by the modern supermarket chains. The potential for growth in the non-kosher market is considerable. The three major supermarket chains have all explored the possibility of setting up non-kosher operations. Several up-scale non-kosher markets (Yogi, Mizra, Manya, and Tiv Tam) have been expanding rapidly and currently have ambitious expansion plans.

Currently most non-kosher meat is marketed through smaller butchers, open markets and institutional traders to some restaurants. This sector has not been growing as rapidly as the rest of the beef industry. Their beef generally comes from production not under rabbinic or veterinary supervision. As many as 40,000 head per year are slaughtered in this market. These outlets

generally choose the non-kosher meat because of its lower price, so it is not of much interest for importers of premium priced calves[10].

i. Farm-Level Profitability of Local Beef Production

According to farm-level studies on feedlot dairy cattle herd bull calves[11] and the pasture-based beef cattle herd, Israeli beef production has been marginally profitable in recent years. The profitability of individual production units is influenced by settlement type, scale of operation, feed ration technology and overall management practices. As such, it is possible to assume that farm-level management techniques that can assist in the optimal planning of feedlot production and marketing decisions, and thereby improve the economic efficiency of the enterprise, would be an important consideration to individual beef producers whose objective is profit maximization.

5. Veterinary Issues

As this report was being prepared, the United States announced the finding of one case of BSE in the U.S. herd. Some 30 countries, including Israel, have banned the import of U.S. beef, including live cattle. In response, the USDA Food Safety Inspection Service has notified U.S. exporters and international veterinary services that FSIS inspectors are not able to certify that beef shipments are free of BSE. Effectively, international trade in U.S. beef products has stopped.

At the same time, the Israeli and the U.S. veterinary services were already planning discussions relating to the veterinary protocol for import of calves from the U.S to Israel. A copy of the veterinary protocol for import of live calves that was circulated by Israel in February 2001 is available. U.S. authorities were not able to meet all of the certifications required by the Israel authorities in that protocol, and no import of feeder calves from the U.S. has taken place.

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